

BULLETIN
OF THE
BROOKLYN ENTOMOLOGICAL SOCIETY

VOL. XLII

FEBRUARY, 1947

No. 1

NEW INDO-AUSTRALIAN LYCAENIDAE
(LEPIDOPTERA).

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The following new species and subspecies have come to our attention during the course of research on the Lycaenidae of New Guinea. It seems advisable to publish them at this time, so that they might become more readily available.

The material is largely from two main sources: the extensive collections made by the senior author in Australia, New Guinea and many of the other East Indian islands over a period of two and a half years; and the large number of Lepidoptera (principally Rhopalocera) collected for the Museum of Comparative Zoölogy by Herbert Stevens, in the Morobe District of New Guinea. We wish to thank the authorities of the American Museum of Natural History, and particularly Mr. W. P. Comstock, for the loan of additional valuable material, as well as Prof. W. T. M. Forbes, of Cornell University, for making available to us that institution's specimens of this difficult group.

The genera covering the species presently under consideration are on a very insecure footing and will require considerable revision, not possible in the present paper. Those herein adopted constitute, in our opinion, the ones most widely accepted at present and those least likely to cause confusion.

Candalides erinus stevensi, new subspecies

UPPERSIDE:

Male. Both wings dark, dully shining purple. *Fore wing* with a narrow costal and a moderately broad, dark, marginal border, thickest at the apex. The *hind wing* also has a moderately thick black-brown border on costal, outer and inner margins, becoming faintly scalloped basally on the outer margin,

near the anal angle. *Fringe* of fore wing basally brown, outwardly white; of hind wing, similar, but more prominently white.

Female. Both wings uniformly brown. *Fringe* as in the male.

UNDERSIDE:

Male. Both wings grayish white. *Fore wing* with a thin marginal line running from apex to inner margin. An interrupted submarginal line parallels this, frequently with the apical part obscure, and always with the lower (near inner margin) two segments moderately swollen. A post-discal line also runs parallel to these. It also is frequently obscure towards the apex. Between the two inner lines, and on the outer margin at the inner angle, the ground color is lightened to nearly pure white. *Hind wing* with the marginal line as in the fore wing, but slightly thickened at the veins. A marginal series of hazy spots, frequently fused, is inwardly and outwardly bordered by white. Basal to this row of spots is a row of faint, V-shaped dashes, apices basad, extremities joined. A convex post-discal row of similarly V-shaped dashes, more acute, and not joined, proceeds from costa to inner margin. Four basal spots, roughly parallel to the body line, are placed, one near the costa, one near the inner margin, and with the inner two alternately a bit out of line. At the end of the cell is an obscure dash, and just basal to that is a pair of dots, below which is another dot, and between this last and the lower one of the basal series is yet another.

Length of fore wing: Male, 11–12 mm.; female, 12 mm.

Holotype, male, Wau, Morobe District, New Guinea, April 4, 1932 (H. Stevens).

Allotype, female, same locality and collector, May 30, 1932.

Paratypes, three males, same locality and collector; two, April 19, 1932, and one, Oct. 2, 1932.

Holotype, allotype, and one paratype, No. 27629, in the Museum of Comparative Zoölogy. One paratype each in the authors' collections.

Remarks. *Stevensi* differs from typical *erinus* in the thickened marginal borders of the male above, and in the reduced intensity of the lower two dashes of the submarginal series on the fore wing below. In the typical race these form one of the outstanding characters of the under surface pattern.

It would seem that *stevensi* is quite local, as this seems to be the first record of the species for the island.

Candalides meeki kunupiensis, new subspecies

UPPERSIDE:

Male. Both wings pure white. Outer margin of fore wing as far as Cu_1 very broadly black-brown, extending basad on the costa about half way. From there it tapers to Cu_2 (where it is about one-third as thick), and sharply disappears just below that vein. Both wings obscurely shaded at the base with blackish scales, heaviest on the hind wing. *Fringe* of fore wing black-brown opposite the black-brown areas, white opposite the white areas; of hind wing white, with one or two dark scales at Cu_1 , Cu_2 , and 2A.

UNDERSIDE:

Male. *Fore wing* white; base and costa pale gray-brown. Outer margin very narrowly brown, basal to which is a row of tiny brown internervural dashes. Immediately basad of them is a very heavy band of black-brown (more brown than the corresponding band on the upper surface), running from the costa where it is thickest, to Cu_2 . Cell closed by a narrow brown line. *Hind wing* white, with a filamentous, obsolescent marginal border, slightly swollen at the veins. Immediately basal to this is a marginal series of small brown dots, one to each interspace. A very irregular discal brown line crosses the wing, segmented as follows: one just outward of the midpoint on the costa, extending to M_1 ; one very irregular one in M_1 - M_3 , displaced marginally; one in M_3 - Cu_1 , placed slightly basad; one in Cu_1 - Cu_2 , still further basad; one in Cu_2 -2A in line with the one in M_3 - Cu_1 . In the base is another, much shorter, transverse line, also disconnected, one segment on costa, one in cell, slightly outward, and one on inner margin, in line with the central one, but angled basad. Basal area shaded with pale brown, leaving white encirclements about the segments. On the inner margin, between the two bands, is a small brown spot. *Fringe* of fore wing brown, white at inner angle; of hind wing white, faintly brown at vein-ends.

Length of fore wing: Male 13.5-14 mm.

Holotype, male, Mt. Kunupi, Menoo Valley, Weyland Mts., Dutch New Guinea, 6000 ft., Nov.-Dec. 1920 (C., F., and J. Pratt), ex coll. E. I. Huntington, Acc. 34,909.

Paratype, male, same data as holotype.

Holotype and paratype in the American Museum of Natural History.

Remarks. This subspecies connects two hitherto geographically isolated forms that have long been regarded as distinct species, *i.e.*, *Candalides meeki*¹ and *Candalides arfaki*,² from which we infer that these are merely extreme subspecies, with *kunupiensis* intermediate. The markings below are thinner and paler than in *arfaki*, but heavier than in *meeki*. Above, the black-brown on the outer margin of the fore wing stops just below Cu_2 as in *meeki*, and does not proceed to the inner margin as in *arfaki*. On the hind wing above the shading at the base does not extend to the anal angle as in *arfaki*, but is restricted to the base, agreeing with *meeki*.

Candalides m. meeki is restricted, so far as known, to eastern New Guinea. It was described from specimens taken on the Angabunga River (erroneously stated by Bethune-Baker to have come from Owgarra—see Jordan, *loc. cit.*). Jordan also records it from the Edie River (west side of the Herzog Mts.). In the Museum of Comparative Zoölogy are a number of examples from Mt. Misim (5-6000 ft.), not far from the latter locality.

C. meeki arfaki is apparently restricted to the Vogelkop. There is a series in the American Museum of Natural History from the Angi Lakes, Arfak Mts., Dutch New Guinea, and a specimen from Dohunsehik in the same region. They agree perfectly with Bethune-Baker's excellent figure.

Candalides grandissima morobeae, new subspecies

UPPERSIDE:

Male. Both wings shining purplish, with a very thin dark border. Costa of fore wing very narrowly bordered with black. Costa of hind wing narrowly bordered with brown-black. The inner margin of the hind wing is white, shading into grayish towards the anal angle. *Fringe* of fore wing blackish white near the inner angle; that of the hind wing dark inwardly, white outwardly; dark at the veins.

UNDERSIDE:

Male. Both wings white. The costa and outer margin of the fore wing, and frequently the whole of the hind wing shaded with light ruddy brown. *Fore wing:* A submarginal series of angled spots runs from apex to Cu_2 . A prominent, curved post-discal band of brown runs from a point three-quarters out

¹ Bethune-Baker, 1906, *Ann. Mag. Nat. Hist.* (7), 17, p. 101. Figured by Jordan, 1930, *Proc. Ent. Soc. London* 5, p. 60, pl. 3, fig. 14.

² Bethune-Baker, 1909, *Ann. Mag. Nat. Hist.* (8), 4, p. 184, pl. 7, fig. 4.

on the costa to Cu_2 just basal to the submarginal line. A thin line crosses the end of the cell. On the costa, basal to the post-discal line, are two brown spots, the inner one placed slightly basad of the center of the costa, the other midway between it and the costal end of the post-discal line. *Hind wing*. A submarginal line of very faint angled dashes follows the margin completely. These dashes are very faint, on close inspection apparently consisting merely of concentrated brown irroration. Marginal to the anal few dashes are several small spots, one to each interspace. The one between Cu_2 and 2A is duplex. A very tortuous post-discal line runs from two-thirds out on the costa down towards the anal angle in a shallow curve. Towards the inner margin this line merges basally with a spattering of brown that appears to be without any definite pattern. Near the base, parallel to the body, runs a series of four or five brown spots, frequently quite indistinct. Between the spot nearest the costa and the costal end of the post-discal band, is a brown bar, parallel to the latter. Immediately below this in the cell is another elongate spot. As was mentioned above, the whole of the under surface of the hind wing is frequently overlaid with pale brownish. When any white ground is present it lies between the post-discal line and the submarginal line, near the costa. The general appearance of the underside of the hind wing of this species is quite reminiscent of the North American *Lycaenopsis pseudargiolus* form *lucia* Kirby, although on a more elaborate scale.

Length of fore wing: Male 14.5–17.5 mm.

Holotype, male, Wau, Morobe District, New Guinea, April 18, 1932 (H. Stevens).

Paratypes, one male, same locality and collector, March 15, 1932; nine males, Mt. Misim, Morobe District, New Guinea (6400 ft.), dated respectively as follows: Feb. 17, March 5, 10, 25, 26, April 8, 1932; two, April 13, 1933; one, no date.

Holotype male, and eight male paratypes, No. 27630, in the Museum of Comparative Zoölogy. One paratype each in the authors' collections.

Remarks. Differs from typical *grandissima*³ only in minor points. The marginal line of the hind wing below is fainter, and the brown discal scaling there is heavier, and the costa is shaded with brown. The post-discal band is slightly variable in length. Concepts of typical *grandissima* are based on Bethune-Baker's description and illustration (*loc. cit.*).

³ Bethune-Baker, 1908, P.Z.S. 1908, p. 121, Pl. 8, fig. 15.

An additional five males of this subspecies, from the same general region as the types, and collected by the same person, are in the collection of the senior author. They were not made a part of the type series as they were not examined by both authors.

***Philiris diana papuanus*, new subspecies**

UPPERSIDE:

Male. Both wings moderately lustrous violet. *Fore wing* with costa and outer margin narrowly black. *Hind wing* with costa light gray, outer margin narrowly black, slightly thicker towards the anal angle. Outer margin somewhat scalloped concavely near the anal angle. Inner margin gray, lighter, almost white near the base. *Fringe* of fore wing black basally, white outwardly; of hind wing similar, but at the anal veins (Cu_1 , Cu_2 , 2A, and to a lesser extent M_3) solidly black and tufted.

UNDERSIDE:

Male. Both wings uniform, slightly pearly white. *Fore wing* with a grayish brown patch on inner margin near base, usually covered by the costa of the hind wing. *Fringe* of both wings white, blackish at the ends of veins M_3 , Cu_1 , Cu_2 , and 2A.

Length of fore wing: male 14 mm.

Holotype, male, Wau, Morobe District, New Guinea, June 2, 1932 (H. Stevens), No. 27625, in the Museum of Comparative Zoölogy.

Remarks. This race differs from typical *diana*⁴ in the absence of a discal white patch on the upperside of the fore wing. Otherwise it appears very similar. Typical *diana* has not been examined by the authors, and the association of *papuanus* with that species is based solely on the figures and descriptions of *diana* in the two works referred to above. In view of the close interresemblance of many of the species of *Philiris* there is more than a possibility that *papuanus* may be a species in its own right. It seems likely, however, that our present arrangement is correct.

P. diana, as represented by the *papuanus* holotype at any rate, is a magnificent insect, even for this group. It is about the largest species in the genus, and from above might easily be mistaken for a species of *Miletus*.

⁴ Waterhouse and Lyell, 1914, *The Butterflies of Australia*, p. 76, figs. 183, 220, 271. See also, Waterhouse, 1932, *What Butterfly is That?* p. 138, pl. 20, figs. 4, 4a.

Philiris ariadne, n. sp.

Eyes ringed with white. *Frons* brown, flanked by the white eye-margining. Behind the bases of the antennae is a nearly straight whitish line, and between them are two lines of whitish scales, tending to converge. *Collar* above of dense brown hair, sprinkled sparsely with some bluish. Below, the collar is pure white as characteristic in this genus. *Antennae* black-and-white annulate; club blackish brown above, fulvous below. *Thorax* above dull blue-black, fringed with scattered light hairs, anally more densely fringed with bluish hair; below with long dense pure white hair. *Abdomen* above brown, below narrowly white. *Wing-shape*: (fore wing)—costa normal; outer margin rather strongly (for this genus—excepting the *aurelia* group) rounded; (hind wing)—costa, inner margin normal; outer margin nearly evenly rounded.

UPPERSIDE:

Male. Both wings moderately lustrous violet. *Fore wing* with a very narrow filamentous black border on both outer and costal margins (that of the latter somewhat thicker), the former rather thickened at the apex. *Hind wing* with costa gray-brown. A narrow border of black, thickening almost imperceptibly towards the anal angle, margins the wing. Inner margin colored as the costa, but with a whitish patch near the base. *Fringe* of fore wing outwardly white, basally blackish; of hind wing, similar, but solidly black brown on the veins from M_3 to 2A; the white is also more prominent.

UNDERSIDE:

Male. Both wings uniformly pearly white. *Fringe* of fore wing white, touched lightly with dark at the ends of some veins (hardly noticeable); of the hind wing similar, but prominently black on the anal veins (M_3 to 2A).

Length of fore wing: male 13.5 mm.

Holotype, male, Wau, Morobe District, New Guinea, May 6, 1932 (H. Stevens), No. 27626, in the Museum of Comparative Zoölogy.

Remarks. This species is very similar in general appearance to *diana papuanus*, and occurs in the same general locality. The similarity between the two is so great that at first they were taken to be the same. They agree quite closely in size, color, and reduced marginal bordering, but differ in several rather important, though not at first obvious points. The marginal black of the fore wing is thickened slightly at the apex in *ariadne*, but not at all in

papuanus. In fact, the whole costal and outer marginal border of the fore wing is thicker. On the hind wing this border is not thickened anally as much as it is in *papuanus*, and the whole border is thinner (just the converse to that obtaining on the fore wing). In *papuanus* the outer margin of the fore wing is only very shallowly convex, while in *ariadne* this margin is prominently so; and in the hind wing the outer margin in *papuanus* is straight or slightly concave from M_1 to Cu_1 , and from M_3 to 2A is concavely scalloped between the veins, while in *ariadne* this border is entirely convex, with scarcely a trace of scalloping. Below, the white appears to be slightly more pearly in *ariadne*.

***Philiris azula*, n. sp.**

Eyes ringed with white. *Frons* brown with a central white line directed downward from between the bases of the antennae to mingle with a white area at the base of the eyes. *Collar* above with long profuse hair of mixed white and bluish. Just back of the eyes is a short bar of white scales, tapering towards either side. On the sides the color changes from dorsally black-brown with scattered white scales and hairs to ventrally white with a few brown scales. *Antennae* black-and-white annulate; club black, tipped with bright fulvous. *Thorax* above black, with a moderate amount of long hair, directed back, lying along the sides. Below covered heavily with long white hair. *Abdomen* above black, overlaid with blue, chiefly near the base; below white; sides with thin bluish lines extending partially upwards along the sutures. *Legs* white, femora with two lengthwise black lines; tibiae and tarsi annulated with black.

UPPERSIDE:

Male. Both wings slightly purplish blue, only slightly iridescent. *Fore wing* with costa narrowly black. Apex more broadly so, outer margin from Cu_1 very thinly so. Veins for a short distance inward obscurely black-pencilled. *Hind wing* with costa pale gray. Outer margin very narrowly black, thickening slightly towards the anal angle. Inner margin from 2A gray, darker near the vein, and near the base, lighter on the edge. *Fringe* of fore wing black basally, white outwardly; that of hind wing similar.

UNDERSIDE:

Male. Both wings uniform, slightly pearly white. *Fore wing* with a gray-brown spot at the base on the inner margin, usually obscured by the costa of the hind wing. *Hind wing* with a black spot about 1 mm. in from the center of the inner

margin. *Fringe* white, black at the vein-ends; only faintly so on the fore wing and upper part of the hind wing.

Length of fore wing: male 13 mm.

Holotype, male, Wau, Morobe District, New Guinea, Oct. 15, 1932 (H. Stevens), No. 27627, in the Museum of Comparative Zoölogy.

Remarks. In wing shape and size *azula* is very close to *fulgens* (*septentrionalis*), but may be told from that species instantly by the narrower black on the fore wing, and the fact that the ground color of fore and hind wings above are identical, rather than different, as in *fulgens*. The pale, lustreless blue of the upper surfaces, the narrow black borders, the pale line on the frons, and the relatively large amount of blue on the upper surface of the abdomen all combine to make *azula* a very distinct species.

Philiris fulgens bicolorata, new subspecies

UPPERSIDE:

Male. *Fore wing* dully shining dark purple. Costa and outer margin narrowly black; veins outwardly obscurely black-pencilled. *Hind wing* bright shining coerulean blue, very faintly violet in some lights. Costa pale brown. Outer margin narrowly black, extending basad on the veins for short distances. Inner margin white, becoming brown on the outer third. *Fringe* outwardly white on both wings, obscurely dark at the vein-ends.

UNDERSIDE:

Male. Both wings pure white. A minute spot on the inner margin of the hind wing, one third out from the base. *Fringe* of both wings white, black-tipped on Cu_1 - Cu_2 and 2A of hind wing.

Length of fore wing: male 13.5 mm.

Holotype, male, Dobo, Aru Islands, June 3, 1939 (R. G. Wind), in the collection of the senior author.

Remarks. This is a very interesting subspecies, apparently forming a link between the subspecies *septentrionalis*⁵ of New Guinea and *Kurandae* has heretofore been considered a good species, but is quite obviously only Australia's representative of *fulgens*. between the two. The apical black is broader than in *septentrionalis* (where it only covers the outer half of the cell-end-to-apex area), but not so broad as in *kurandae* (in which the whole cell-end-to-apex area is black). The hind wing is the bright blue of *kurandae*

⁵ Joicey and Talbot, 1916, Trans. Ent. Soc. London, 1916, p. 76. *kurandae*⁶ of Australia. It is, in fact, almost exactly intermediate

⁶ Waterhouse, 1902, Proc. Linn. Soc. N. S. W. 27, p. 651.

and not the violet of *septentrionalis*. The marginal black of the hind wing is narrow as in the New Guinea race.

Typical *fulgens*⁷ was described from Amboina. No specimens have been seen. From the description and figure it would seem to be rather like *kurandae*, but with the violet hind wing of *septentrionalis*.

Philiris intensa birou, new subspecies

UPPERSIDE:

Male. Both wings bright, iridescent, and slightly purplish blue. *Fore wing* with a narrow costal and a broader marginal black border, the latter thickening toward the apex, where it occupies the outer third of the cell-end-to-apex area. *Hind wing* with costa and inner margin moderately broadly brown-black, and outer margin less broadly black. *Fringe* of both wings white, black at the ends of the veins.

Female. Both wings brown. *Fore wing* with a large pale bluish area that occupies the lower half of the cell to the inner margin, and out about three-quarters of the way on the latter. The outer extremity of this blue area extends from the above-mentioned point on the inner margin straight up to Cu_1 , where it curves over and meets the upper limit at the origin of M_2 . Near the apical end of this bluish area, between the bases of M_3 and Cu_2 , is an obscure whitish patch. *Hind wing* with costa faintly lighter. Cell entirely bluish, which extends beyond the end half way to the outer margin, below into the basal thirds of the Cu_1-Cu_2 and Cu_2-2A interspaces, and above, faintly into the base of the $Rs-M_1$ interspace. *Fringe* as in the male.

UNDERSIDE:

Male. Pure white on both wings. A small black spot occupies the center of the inner margin of the hind wing, about 1 mm. in from the edge. *Fringe* white, black at the ends of the veins.

Female. Similar to the male.

Length of fore wing: male; large 13 mm., average 12.8, small 12. Female; large 14 mm., average 13.3, small 13.

Holotype, male, Wau, Morobe District, New Guinea, Aug. 8, 1932 (H. Stevens).

Allotype, female, same locality and collector, Feb. 13, 1932.

⁷ Smith and Kirby, 1897, Rhop. Exot. Orient. Lyc. X, p. 8, figs. 14, 15.

Paratypes, 6 males and 2 females, same locality and collector; 1 female each Feb. 13, 19, 1932; one male each, March 10, 16, 25, April 15, Aug. 8, Oct. 15, 1932; two males, Bialowat, Morobe District, New Guinea (H. Stevens) resp. Aug. 6, 13, 1932.

Holotype, allotype, and 6 male paratypes, No. 27623, in the Museum of Comparative Zoölogy. One male and one female paratype in each of the authors' collections.

Remarks. *Birou* differs from typical *intensa* in the reduction in size of the marginal bordering of both wings. In typical *intensa* the apical part of this bordering on the fore wing extends back half-way to the cell-end, while in *birou* it extends back but one-third. The marginal black on the hind wing is about half as thick as that of typical *intensa*. Also, there is no pencilling of the outer extremities of the veins, such as that found on the typical subspecies. In the female, the bluish appears to be more extensive on the hind wing.

The typical insect was described from the Aru Islands. Specimens in the collection of the senior author from Samarai and Milne Bay, eastern New Guinea, agree well with Aru specimens in the same collection and in the collection of the Museum of Comparative Zoölogy. From Fak-Fak (Kapaur), Dutch New Guinea, is a series of some few specimens that apparently belong to an intermediate race. It was not deemed worthy of description, in the absence of a greater and more convincing number of specimens. From Inanwatin, Dutch New Guinea, is a very large male, whose length of fore wing is 15 mm. It otherwise corresponds with the Fak-Fak specimens. In the Carnegie Museum is a male of *intensa* (*s.l.*) from Hollandia, Dutch New Guinea, that apparently represents an extreme development along the *birou* line, the black bordering being even narrower than in *birou*. Because of this difference, and the fact that it hails from a locality quite far removed from the type locality of *birou*, it was not made part of the type series.

The name *birou*, Malay for *bright blue*, seems to be particularly applicable to *intensa* and its subspecies.

Philiris innotatus^s *evinculis*, new subspecies

is a good species, quite distinct from Amboinese *ilias* Felder (Sitzungsber. kais. Akad. Wiss. (Vienna) 40, 1860, p. 454), with which it has previously been associated.

UPPERSIDE:

Male. Both wings blue-lilac. *Fore wing* with costa narrowly black-brown, and outer margin with a border of similar

^s *Philiris innotatus* Miskin (Ent. Mo. Mag. 11, Dec. 1874, p. 165)

color, thickest at the apex, where it covers the outer half of the distance from cell-end to apex. This border extends briefly basad on the veins. *Hind wing* with a gray costal and inner marginal border, and a black-brown outer marginal border, also extending briefly basad on the veins. *Fringe* of both wings white, basally black-brown and also at the vein-ends near the anal angle of the hind wing.

Female. Both wings black-brown. *Fore wing* with a large sky blue patch covering the whole cell, save for the upper cell-end, and the whole region below to the inner margin, where it occupies the inner four-fifths of the wing. Veins M_3 , Cu_1 and Cu_2 in this blue area are white. *Hind wing* with a central dull blue patch leaving the veins and a dash across the cell-end brown. *Fringe* as in the male.

UNDERSIDE:

Male. Both wings sublustrous white. *Fringe* white, basally black near the anal angle of the hind wing, and at the vein-ends there.

Female. Similar.

Length of fore wing (last two paratypes only): male 11 mm.; female 12.5 mm.

Holotype, male, Redlynch, North Queensland, Australia, August 14, 1938 (R. G. Wind).

Allotype, female, same locality and collector as holotype, September 17, 1938.

Paratypes, same locality and collector as holotype: two males, October 1, 3, 1938, resp.; one female, August 14, 1938.

Holotype, allotype, and one male paratype in the Cornell University collection. One male, one female paratype in the collection of the senior author.

Remarks. Differs from a number of toptotypical (Brisbane) specimens in the collection of the Museum of Comparative Zoölogy as follows: In the male, the ground color above is paler, less violet, and the outer marginal border is narrower (one-half instead of two-thirds the distance from cell-end to apex). In the female the blue is more extensive on both wings above.

***Philiris moira putih*, new subspecies**

UPPERSIDE:

Male. Both wings bright shining violet-blue. *Fore wing* with a costal and outer marginal border, the former about 1 mm. thick, the latter about 5 mm. at the apex, narrowing

down to a minimum of 1.5 mm. This dark bordering extends basad a short distance on each vein. *Hind wing* with a costal, outer and inner marginal border, the first and last somewhat paler and slightly thicker (maximum 1.5 mm.), the second slightly less than 1 mm. This bordering also extends briefly basad on each vein. *Fringe* brown, whitish outwardly between the veins.

Female. Both wings uniformly brown. *Fore wing* with the basal third each of M_3 , Cu_1 and Cu_2 and the lower DC between them white. Between the whitened portions of these veins are scattered pale blue scales, and below in the Cu_2-2A interspace are some darker scales.

UNDERSIDE:

Male. Both wings pure, very slightly lustrous (save on inner margin of fore wing) white. Below the cell of the fore wing, near the base, is a brown patch, usually hidden by the costa of the hind wing. On the hind wing is a spot on the inner margin, just basad of the center of that margin. *Fringe* of fore wing white, dark at the vein-ends and towards the apex; of hind wing black, whitish outwardly between the veins.

Female. Similar to the male.

Length of fore wing: male 11.5 mm.; female 11.5 mm.

Holotype, male, Pt. Moresby, British New Guinea, April 26, 1939 (R. G. Wind).

Allotype, female, same data.

Paratypes, three males, same locality and collector as holotype, April 18, 22, May 5, 1939 resp.

Holotype and allotype in the Cornell University collection. One paratype, No. 27624, in the collection of the Museum of Comparative Zoölogy, and one paratype each in the authors' collections.

Remarks. This may well be a good species. It differs from *moira* in being much smaller (less than 1 inch in expanse, while *moira* attains to nearly $1\frac{1}{4}$ inches). The black border on the fore wing of the male is thicker, and the blue above on the female is reduced considerably. *Putih* has a black spot on the inner margin of the hind wing below, which is absent from the illustration (with which these comparisons were made) given by Smith and Kirby of *moira*.⁹

⁹ Rhop. Exot. 3, Lycaenidae (Oriental) Plate XVIII *Holochila* IV, Jan. 1899, p. 14, figs. 9, 10, 11.

Putih is the Malay word for *white*.

Philiris mayri, n. sp.

*Eyes*¹⁰ ringed with white. *Frons* brown, narrowing towards the base of the eyes. *Collar* above with long brown hair, becoming shorter and white on the sides. *Antennae* black, annulated with white; club black, tipped obscurely with dull, dark fulvous. *Thorax* above black with long, back-directed hair on the front, sides, and just before the abdomen; below covered with long projecting white hair. *Abdomen* black-brown above, narrowly cream-white below; on each side are three small patches of metallic scales, one each in the three segments next the thorax. *Legs* white, annulate with black. *Wing shape*: (Fore wing)—costa evenly rounded, slightly more sharply at the base and apex; outer margin shallowly and evenly rounded, with apex blunt but angled; inner margin straight. (Hind-wing)—costa arched at base, evenly rounded beyond, gradually merging into the outer margin, which is moderately well-rounded, more so at about Cu_1 , meeting inner margin bluntly at anal angle. Inner margin evenly curved.

UPPERSIDE:

Male. Both wings lustrous violet. *Fore wing* on costa with moderately broad black-brown border. Outer margin with a similar border, narrow at the inner margin, and thickening considerably above Cu_2 , to cover the outer half of the cell-end-to-apex area. This bordering extends slightly basad on the veins. *Hind wing* with outer margin narrowly and evenly black-brown. Costa white. Inner margin to 2A gray. *Fringe* on the specimen examined too poor for description.

UNDERSIDE:

Male. Both wings rather flat white. Just basad of the center of the inner margin of the hind wing is a tiny black spot. *Fringe* on hind wing appears to be black towards the anal angle.

Length of fore wing: male 13 mm.

Holotype, male, Mt. Siwi, Arfak Mts., Dutch New Guinea, 800 m., April–June 1928 (Dr. E. Mayr), Acc. 31075, in the American Museum of Natural History.

Remarks. Evidently closely allied to *P. marginata*¹¹ but differs in the narrower dark borders, in the shape of the hind wing, *mayri*

¹⁰ The condition of the single specimen examined does not permit a too accurate description of the less obvious parts. Hence there are very likely some discrepancies.

¹¹ Grose-Smith, Nov. Zool. 1, 1894, p. 579.

having a blunter anal angle than *marginata*. Below on the hind wing *mayri* differs in possessing the black inner marginal spot, apparently lacking in *marginata*, and the anal fringe is apparently blacker.

This species is named for the collector, Dr. Ernst Mayr, whose Ornithological work is well known.

***Philiris misimensis*, n. sp.**

Eyes ringed with white. *Frons* broadly brown between the eyes, contracting sharply towards the palpi to a narrow brown line. *Collar* above with long profuse brown hair, with a few white hairs at the top. Between the bases of the antennae are two short white dashes, both parallel to the body axis. On the sides the brown hair shortens and mingles with white, becoming all white below. *Antennae* black, white annulate; club black, tipped obscurely with dull fulvous. *Thorax* above black, nearly hairless at summit, but along sides with rather long, back-directed hairs, heaviest just behind the head and just before the abdomen. Below covered with profuse long white hair. *Abdomen* above black, below creamy white. Above, frontad, with long, dull, back-directed hairs as on thorax. *Legs* white—prothoracic infrequently annulated with black; mesothoracic with femora and tibiae outwardly almost solid black, inwardly white marked, tarsi black and white annulate (basal segment mostly black); metathoracic similar to mesothoracic. *Wing shape*: (Fore wing)—costa shallowly and evenly rounded; apex blunt; outer margin heavily rounded; inner margin rounded; (Hind wing)—costa slightly rounded, sharply so near base, outer margin merging with it gradually, almost eliminating outer angle; outer margin very rounded; inner margin evenly, well rounded; anal angle blunt, but present.

UPPERSIDE:

Male. Both wings dully shining dark purple. *Fore wing* with a moderately narrow costal dark border (towards the base limited by Sc). Outer margin with a heavier border, slightly thickened apically, and extending for a short distance basad on the veins. *Hind wing* with a broad, dark costal border and a slightly narrower and darker outer marginal one, the latter extending shortly basad on the veins. Inner margin dark bordered (same shade as costal border), limited by 2A. *Fringe* of fore wing white towards inner margin (basally dark),

becoming grayish towards apex. Obscurely dark at the vein-ends. Outer margin appears to be slightly scalloped, especially towards the anal angle, apparently due to the lengthened fringe at the vein-ends as well as the more produced wing itself.

UNDERSIDE:

Male. Both wings pearly grayish-white. End of cell on each wing crossed by a pale streak. Costa of fore wing edged very narrowly with fulvous. At base of fore wing, below the lower DC and above 2A, is an obscure dark patch, usually hidden by the costa of the hind wing. Inner margin of hind wing, in about 1 mm., and slightly basad of the center, with a small black dot. *Fringe* of both wings white. Cu_1 , Cu_2 and 2A prominently tipped with black, the remaining veins obscurely so.

Length of fore wing: male 13.5 mm.

Holotype, male, Mt. Misim, Morobe District, New Guinea, 5-6000 feet (H. Stevens), No. 27628, in the Museum of Comparative Zoölogy.

Remarks. This species belongs to the *subovata-aurelia* group, and seems to find its nearest affinities in *subovata*¹² or *theleos*.¹³ It is slightly larger than the former, the color on the upperside darker and less lustrous. It is also darker below. From the latter, as well as from all other members of this group, it may be told by the paler cell-end streak on each wing below. An additional specimen from Wau (Morobe District) may be this species, but it is so worn that it cannot be placed with certainty.

Diostracus prasinus Loew in Tennessee (Diptera, Dolichopodidae).—This peculiar fly was described in 1861 from "New York." Nothing more about it was known in 1911 when Aldrich described another species of the genus from the West. It was recorded in the New York List from Wells, N. Y. (in the Adirondack Mts.) and from Bolton Mt., Vt., and Chester, Mass., by Johnson in the New England List. These seem to be the only records. On June 11, 1946, I took two males close to the water rushing over the rocks in the river at the Chimneys Camp in the Great Smoky Mountains National Park (Tenn.) and on June 15 I took one more male in a similar situation at Elkmont, Tenn., also in the Park.—

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¹² Grose-Smith, Nov. Zool. 1, 1894, p. 579.

¹³ H. H. Druce, Ann. Mag. Nat. Hist. (6) 19, Jan. 1897, p. 15.